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the unity of the glacier, as indicated by observed facts, neither assumed an unreasonable land elevation in polar regions, nor required a thickness of ice so great as to be open to the objections of the last speaker.

He suggested that the ice-cap flowed south simply because it flowed toward a source of heat. Such flow does not depend upon gravity, but would occur in a nearly flat field of ice, and he thought that the ice need not to have been more than a few times its present thickness in Greenland to account for all existing phenomena upon the hypothesis now suggested.

Professor **Heilprin** maintained that we were unacquainted with any laws of glacial action which would account for the indiscriminate progression of an ice-sheet toward a source of heat. The molecular-expansion theory as applied to the glacial phenomena of the Alps, took no cognizance of the position of the heat power, but merely of that of least resistance (the direction of slope). As to the magnitude of icebergs, the height above water gave no positive indication as to the development (in depth) beneath the surface, since this would largely depend upon the form assumed by the berg. As a matter of fact, however, the highest bergs observed by Hayes and Nares in the northern regions, rose only about 300 ft. out of the water, a height somewhat exceeding the highest Antarctic bergs encountered by the "Challenger." We had, therefore, no indications of any extraordinary development of ice in Greenland.

Chalcedony containing Liquid.—Professor H. **Carvill Lewis** called attention to a geode of chalcedony from the Salto River, Uraguay, presented by Mr. S. R Colbroun, of the United States Navy. The specimen contained an unusual quantity of liquid—from two to three drachms; it was derived from an extensive basaltic formation of amygdaloid and black melaphyr, and was coated with a substance resembling asbestos. He described the method of formation of such hollow masses of mammillary chalcedony as being endogenous and referred to an interesting paper recently published by I. Anson and Parkhurst upon the artificial manufacture of chalcedony.

On the Flowering of the Stapelia.—At the meeting of the Botanical Section, February 12th, Mr. **Thomas Meehan** exhibited specimens of *Stapelia bufonia* in various stages of growth, inflorescence and fruit, and pointed out that though there were axillary buds of more or less prominence at the base of what we had to call leaves, yet the flowers rarely proceeded from these, but from lateral accessory buds. When the axillary buds developed, they produced branches and not flowers. The lateral accessory buds usually developed into minute abortive flowers, with a membranous scale or bract in the place of the primary leaf. These observations were made on plants which had been planted in the open ground during the summer and were repotted in the fall and replaced in a warm greenhouse. The branches commented on had grown since that time, and might be termed the second growth of the same season. When the plants were being potted, having more than were needed, one was thrown carelessly under the greenhouse stage, where it shriveled considerably, but retained some vital power, enough in fact to send down a few fibrous roots into the earth. It had shriveled so as to be reduced to about half its normal weight. Its behavior under these conditions had not been observed till a few days since this date, when an examination showed that the greater portion of the axillary buds had developed into minute flowers, as in the case of the accessory buds under the normal condition. Some of these, judging by their dry remains, had grown to nearly one-fourth the usual size of the normal flowers, though most of them were much smaller. In these cases no lateral accessory buds had been produced. A perfect flower from a healthy pot-plant was exhibited, but not more than two-thirds the size of those produced in the growth of the first part of the season when the plant was in the open air. Numbers had been produced during the winter from the accessory buds at the base of the secondary growths. One of these had borne a fine seed-vessel, which was also exhibited. No seed-vessels had followed the numerous stronger flowers produced by the plants in the open air during the summer.

In commenting on these facts, Mr. Meehan pointed out their harmony with others bearing on the relation between nutrition and the various phases of the vegetative and reproductive conditions of vegetation. Morphologically every development from the bud to the fruit is primarily the same. We imagine all these developments to be founded on a primary leaf or leaves. Just when and how the various stages of development are brought about it is for physiology to determine. The student of fruit and forest trees knows that a rapid-growing young tree does not flower, and often when it commenced to flower, no fruit followed. Its vegetative vigor had to be somewhat checked before the reproductive forces induced flowers. The gardener brings about this condition by root-pruning or ringing, that is, taking off a portion of the bark of the vigorous tree. Transplanting often makes a barren tree fruitful. What would have been leaves, become petals and parts of fructification in the transplanted tree. He had himself placed on record many illustrations of this. The *Wistaria* and other climbing plants might flower, but rarely produce fruit when growing vigorously over trees or trellises, but as soon as branches were thrown off which could not attach themselves to supports, these lost their vigor, and the flowers produced seeds. But even when seeds resulted from the flowers of the *Wistaria*, they were rarely from the most vigorous at the commencement of the raceme, but only after the weaker flowers had been reached By a careful count, in many hundred cases he had found that in racemes of the *Wistaria* which had produced seed-vessels, some forty or fifty flowers, on the average, faded before one produced seed.

These observations on *Stapelia* were of a similar character. The axillary buds, in the normal condition of the plant, resulted in branches only, the flowers proceeding only from the weaker lateral accessory ones. But when the vegetative powers of the plant are weakened, the axillary buds become flowering ones. The rarity with which seed-vessels are produced by the *Stapelia* under cultivation, he thought, might possibly be traced to some cause relating to nutrition, rather than to matters connected with pollination.

The observations were made solely on these winter-growing plants, as illustrated by the specimens exhibited; how far they might be paralleled by open air growth during the summer, the speaker could not say.

The following paper was ordered to be printed:—